



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,331	11/29/2001	Peter Moffatt	476-2071	4986

7590 02/12/2004

William M. Lee, Jr.
Lee, Mann, Smith, McWilliams, Sweeney & Ohlson
P.O. Box 2786
Chicago, IL 60960-2786

EXAMINER

SPOONER, LAMONT M

ART UNIT	PAPER NUMBER
----------	--------------

2654

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,331

Applicant(s)

MOFFATT ET AL.

Examiner

Lamont M Spooner

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 10** recites the limitation "said parameters" in --line 16--. There is insufficient antecedent basis for this limitation in the claim.

The examiner has interpreted the claim as:

In claim 10 line 16, "claim 8" is examined as --**claim 9**--.

3. **Claim 13** recites the limitation "said four fragments" in --line 9--. There is insufficient antecedent basis for this limitation in the claim.

The examiner has interpreted the claim as:

In claim 13 line 9, "claim 11" is examined as --**claim 12**--.

4. **Claim 22** recites the limitation "A computer program" in --line 6--. There is insufficient antecedent basis for this limitation in the claim.

The examiner has interpreted the claim as:

In claim 10 line 16, "claim 20" is examined as --**claim 21**--.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2654

6. Claims 1, 2, 4, 5, 7, 9-17, 21- 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota (U.S. Patent No. 6,188,977 Feb. 13, 2001) in view of Busardo (U.S. Patent No. 6,148,285 Nov. 14, 2000).

Hirota and Busardo are analogous art in that they are of the information synthesis field.

As per **claims 1, 16, 17, 21 and 22**, Hirota discloses a method of playing recordings of spoken alphanumeric characters in sequences comprising:

receiving a sequence of alphanumeric characters to be played (Fig. 7, C.5.lines 1-4, Fig. 1 item 107 "Input Unit"-Natural Language Sentence)

accessing a template (Fig. 4-the template is the model that recognizes and matches a pattern, C.2.lines 3, 4) comprising a sequence of fields (Fig 4. "<integer>, <fraction>"-it would have been obvious, and well known that the information entered into the pattern matching area is called a field), each field representing part of a sequence of alphanumeric characters (C.2.line 1-"NL550" represents a string of alphanumeric characters) and said template comprising information about the manner in which a sequence of alphanumeric characters is to be played (C.6.lines 42-47-the sequence is played in a monotone "manner").

accessing a database of fragments (C.6.line 47-to read the alphanumeric character recorded fragments as stated "en el faiv" it is necessary to access a database which contain these specified fragments, C.6.lines 15-17-wherein the notation non-specific dictionary is the database containing the fragments or pronunciation

information), as spoken at a particular location within an utterance (C.6.lines 45-47-the location being one character read after the other in the utterance).

for each character in said received sequence of alphanumeric characters (C.6.line 42 "NL550" is the sequence of characters), selecting a fragment on the basis of the accessed template (C.6.lines 43-47- "en el faiv faiv ou" are selected based on the accessed template in the template/dictionary database); and

passing said selected fragments to a player and playing the fragments (C.6.lines 45, 46).

Hirota does not disclose:

each of a plurality of said fragments being a recording of a spoken alphanumeric character as spoken at a particular location within an utterance;

However, as it is well known in the art, Busardo teaches recording of a spoken set of fragments (C.3.lines 13-16-"voice actor" records the fragments into a database). Therefore it would have been obvious, at the time of the invention, to combine Hirota with Busardo. The motivation would have been to have a database of spoken recorded sounds that could be played once related to the input character sequence which would render a more human like play instead of the well known robotic sounding play.

As per **claim 2**, Hirota and Busardo disclose all of the limitations of claim 1, upon which claim 2 depends. Hirota further discloses:

said accessed template (Fig. 4 "<NL_PRODUCT>") is selected from a database of templates (Fig. 4) on the basis of the received sequence of alphanumeric characters (C.5.lines 1-4).

As per **claim 4**, Hirota and Busardo disclose all of the limitations of claim 2, upon which claim 4 depends. Hirota further discloses:

at least some of the templates in said database contain specified alphanumeric characters in at least some of the template fields (Fig. 4 "<NL_PRODUCT>"-the specified characters in this case are the "N" and "L", it would be obvious to have a numeric specified character if desired).

As per **claim 5**, Hirota and Busardo disclose all of the limitations of claim 4, upon which claim 5 depends. Hirota further discloses:

said accessed template is selected from the database of templates (Fig. 4) by matching at least some of the received sequence of alphanumeric characters with specified alphanumeric characters in the template fields (C.2.lines 1-4, Fig. 4 "<NL_PRODUCT>" is matched with C.6.line 42 "NL550").

As per **claim 7**, Hirota and Busardo disclose all of the limitations of claim 2, upon which claim 7 depends. Hirota further discloses:

said database of templates (Fig. 4, C.4.lines 22-24) comprises sets of templates each set being suitable for use with a particular type of alphanumeric character sequence (Fig. 4, C.4.lines 33-38-the types of sequences suitable are integer, fraction, date, onomatopoeic, etc.).

As per **claim 9**, Hirota and Busardo disclose all of the limitations of claim 1, upon which claim 9 depends. Hirota further discloses:

said receiving a sequence of alphanumeric characters further comprises receiving values of one or more parameters (C.4.lines 45-47-the parameters being the entry must be between greater than 1 and equal to or smaller than 12).

As per **claim 10**, Hirota and Busardo disclose all of the limitations of claim 9, upon which claim 10 depends. Hirota further discloses:

said parameters specifies a type of alphanumeric character sequence (C.4.lines 33, 42-44-the specified sequence is month, day, year)..

As per **claim 11**, Hirota and Busardo disclose all of the limitations of claim 1, upon which claim 11 depends. Hirota further discloses:

said alphanumeric character sequence is selected from a date (C.6.lines 20-24).

As per **claim 12**, Hirota and Busardo disclose all of the limitations of claim 1, upon which claim 12 depends. Hirota further discloses:

said database of fragments comprises at least four fragments for a plurality of said alphanumeric characters (C.6.line 46 "en el faiv faiv ou").

As per **claim 13**, Hirota and Busardo disclose all of the limitations of claim 12, upon which claim 13 depends. Hirota further discloses:

said four fragments are a recording of an alphanumeric character at each of the following positions within an utterance, where a subgroup is a part of an alphanumeric character sequence; start of a subgroup; middle of a subgroup; end of a subgroup; and end of an utterance (C.6.line 46-"en" is the start, "el" is the middle of the subgroup, "faiv" is at the end of the subgroup, and the space is the end of the subgroup-the space being silence).

As per **claim 14**, Hirota and Busardo disclose all of the limitations of claim 2, upon which claim 14 depends. Hirota further discloses:

if said selected template is incompatible with said received alphanumeric data sequence, then said template is adapted to be compatible with the received alphanumeric data sequence (C.6.lines 62-66-the addition to the template database would then adapt the template to be compatible).

As per **claim 15**, Hirota and Busardo disclose all of the limitations of claim 1, upon which claim 15 depends. Hirota does not disclose:

the alphanumeric character sequence is received, the method of claim 1 completed and the sequence played in real time

However, as it is well known in the art, Busardo teaches the synthesis of speech is completed in real time (C.4.lines 5-7). Therefore it would have been obvious, at the time of the invention to combine Hirota and Busardo. The motivation for doing so would have been to have the desired speech information played in real-time due to the alphanumeric data entry which would enable one to compete with the high standards of real-time information processing instead of having a response at a later time.

As per **claim 23**, Hirota and Busardo disclose all of the limitations of claim 16, upon which claim 23 depends. Hirota does not disclose:

an automated directory number enquiry system comprising an apparatus as claimed in claim 16.

However, as it is well known in the art, Busardo teaches having an automated directory number system (C.4.lines 5-7). Therefore it would have been obvious, at the

time of the invention, to combine Hirota and Busardo. The motivation for doing so would have been to enquire a number from a directory and have the information processed and synthesized automatically, without having to manually instruct the system step by step for the acquisition of the desired information.

7. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota in view of Busardo in further view of Pirz et al. (U.S. Patent RE 32,012 Oct. 22, 1985).

Hirota, Busardo and Pirz et al. are analogous art because they are of the speech recognition field.

As per **claim 3**, Hirota and Busardo disclose all of the limitations of claim 2, upon which claim 3 depends. Hirota and Busardo do not disclose:

the templates in said database are prioritized.

However, as it is well known in the art, Pirz et al. teaches prioritizing (ordering) templates. Therefore it would have been obvious, at the time of the invention, to combine Hirota, Busardo and Pirz et al. The motivation for doing so would have been to process information into voiced representations and having the templates that correspond to the characters prioritized for the purpose of locating frequently used templates faster as they could have a higher priority than infrequently used templates.

As per **claim 6**, Hirota and Busardo disclose all of the limitations of claim 3, upon which claim 6 depends. Hirota further discloses:

said accessed template is selected from the database of templates on the basis of the received sequence of alphanumeric characters (C.5.lines 38-41).

Hirota and Busardo do not disclose:

said accessed template is selected from the database of templates on the basis of the priority of the templates as well as on the basis of the received sequence of alphanumeric characters.

However, as it is well known in the art, Pirz et al. teaches selecting the template on the basis of it's priority (C.4.lines 51-54, 65-68). Therefore it would have been obvious, at the time of the invention, to combine Hirota, Busardo and Pirz et al. The motivation for doing so would have been to process information into voiced representations and having the templates that correspond to the characters selected based on prioritization as well as the order of characters received, for the purpose of locating frequently used templates faster as they could have a higher priority than infrequently used templates and having a filtering criteria for the reception of the characters so that desired templates will be accessed that better accommodate the sequence of alphanumeric characters.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota in view of Busardo in further view of Huang et al. (U.S. Patent No. 5,913,193 Jun. 15, 1999).

Hirota, Busardo and Huang et al. are analogous art because they are of the information synthesis field.

As per **claim 8**, Hirota and Busardo disclose all of the limitations of claim 1, upon which claim 8 depends. Hirota and Busardo do not disclose:

Art Unit: 2654

said template information about the manner in which a sequence of alphanumeric characters is to be played comprises information about pauses.

However, as it is well known in the art, Huang et al. teaches having information about the manner in which a string is to be played contains information about pauses (C.4.lines 39-41). Therefore it would have been obvious, at the time of the invention, to combine Hirota, Busardo and Huang et al. The motivation for doing so would have been to attempt to eliminate the effect of having two different words or for example a proper name and a middle initial, pronounced together as one word due to insufficient pause information.

9. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota in view of Busardo in further view of Ronca et al. (U.S. Patent No. 6,546,366 filed Feb.26, 1999).

Hirota, Busardo, and Ronca et al. are analogous art because they are of the text to speech conversion field.

As per **claim 18**, Hirota and Busardo disclose all of the limitations of claim 16, upon which claim 18 depends. Hirota and Busardo do not disclose:

said player is provided by an interactive voice response (IVR) system.

However, as it is well known in the art, Ronca et al. teaches having the messaging accessible by an IVR system (C.4.lines 61-66). Therefore it would have been obvious, at the time of the invention, to combine Hirota, Busardo, and Ronca et al. The motivation would have been to convert text to speech and allow an interactive voice

Art Unit: 2654

response system control the player which will enable an user friendly and easy method of communication by the user with the player.

As per **claim 19**, Hirota and Busardo disclose all of the limitations of claim 16, upon which claim 19 depends. Hirota and Busardo do not disclose:

said processor is integral with an IVR system.

However, as it is well known in the art, Ronca et al. teaches integrating the processing systems (of voice messaging and text messaging) with an IVR System (C.1.lines 60-64, C.4.lines 58-60, 63-66). Therefore it would have been obvious, at the time of the invention, to combine Hirota, Busardo and Ronca et al. The motivation for doing so would have been to allow the IVR system to integrate the processing of the information received and synthesized for the purpose of allowing the IVR to encompass or be an integral part of the synthesis while interacting with the user via voice response.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Gould (U.S. Patent No. 5,794,189 Aug.11, 1998) teaches of using templates with fields having restriction rules allow, define and order information.
- Luther (U.S. Patent No. 5,555,343 Sep. 10, 1996) teaches formatting input (text/speech) by use of templates before synthesizing.

Art Unit: 2654

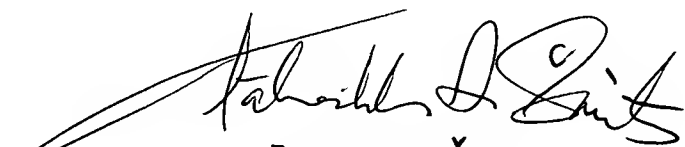
- Rissanen (U.S. Patent No. 5,450,524 Sep. 12, 1995) teaches recording a person speaking predefined alphanumeric terms for matching with speech input of alphanumeric characters.
- Baker et al. (U.S. Patent No. 6,405,172 filed Sep. 9, 2000) teaches of a system for retrieving records using spoken characters as input.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamont M Spooner whose telephone number is 703/305-8661. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on 703/306-3011. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703/305-3900.

lms
1/23/04



TĀLIVALDIS IVARS SMITS
PRIMARY EXAMINER